

Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

Wolf Creek and Tributary to Wolf Creek

Water Body Segment at a Glance:

County:	St. Francois
Nearby City:	Farmington
Length of impaired segment:	
Wolf Creek:	8 miles
Wolf Creek Tributary:	1.5 miles
Pollutant:	Low Dissolved Oxygen
Source:	None Given
Water Body IDs:	
Wolf Creek:	2879
Wolf Creek Tributary:	3589



State Map Showing Location of Watershed

Scheduled for TMDL development: 2015

Description of the Problem

Designated beneficial uses of Wolf Creek and Tributary

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Protection of Human Health (Fish Consumption)
- Whole Body Contact Recreation

Use that is impaired

- Protection of Warm Water Aquatic Life

Standards that apply

- In the Missouri Water Quality Standards, found in 10 CSR 20-7.031 Table A, the criterion for dissolved oxygen, or DO, in streams is a minimum of 5 mg/L (milligrams per liter or parts per million).

Background information and water quality data

Wolf Creek is a rural stream that lies just east of Farmington in St. Francois County, Missouri. Its unnamed tributary begins in Farmington and is the receiving stream for the effluent (discharge) from the Farmington East Wastewater Treatment Plant, or WWTP. Both water bodies are impaired by low dissolved oxygen. The impairment is based on data collected by the department while conducting wasteload allocation studies in 2000 and 2001.

Water quality conditions in these waters are not protective of aquatic life because the dissolved oxygen is too low. Dissolved oxygen is important as many aquatic organisms require high levels of oxygen to

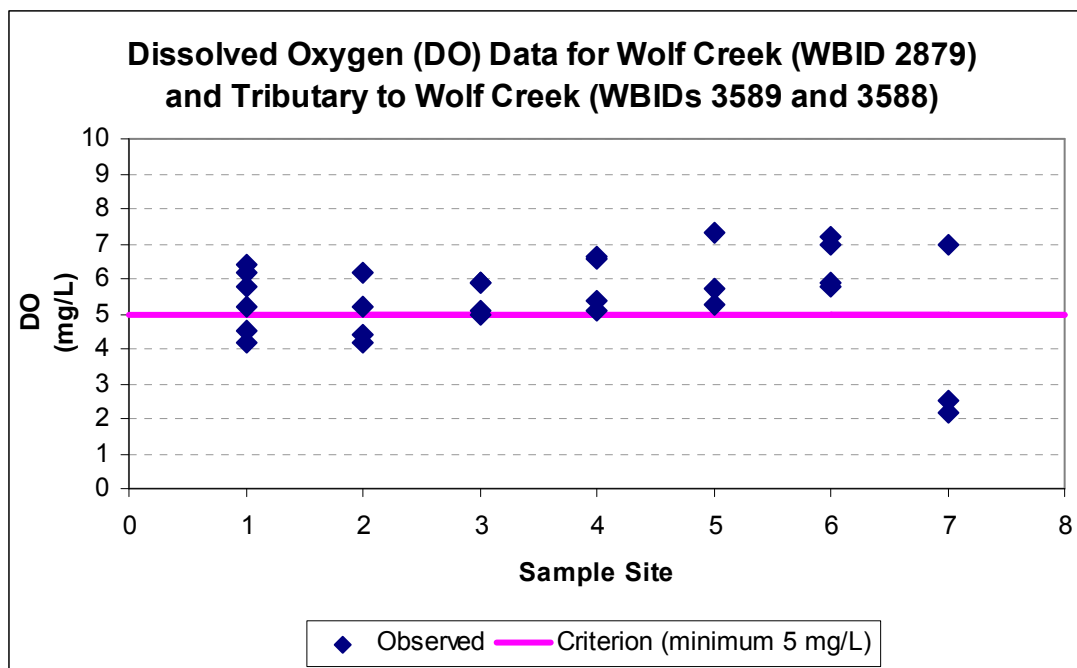
survive. For dissolved oxygen, if more that 10 percent of measurements in a water body fail to meet the water quality criterion, that water body is judged to be impaired. In the case of Wolf Creek, four of 21 samples (19 percent) did not meet the water quality criterion. For the Tributary to Wolf Creek (WBID 3589), two of three samples (66.7 percent) at site #7 did not meet the water quality criterion. The downstream segment of this tributary (WBID 3588) was not judged to be impaired, as all of the four samples taken met the criteria. While it is not known exactly what is causing the dissolved oxygen to be low, the usual suspects are excessive nutrients and sediment. Sources of nutrients are fertilizer, both commercial and manure, leaking septic systems and “direct deposit” from animals (both domestic and wild) defecating in the stream. Sources of sediment are runoff from unvegetated fields and construction sites and erosion from inadequately protected riparian, or buffer, zones along creeks.

Dissolved Oxygen Data for Wolf Creek (WBID 2879) and Tributary to Wolf Creek (WBIDs 3589 and 3588)

Site*	Sampling Year	# of Samples Exceeding	Total # of Samples	Percent Exceeding
1	2001	2	4	50
1	2004	0	2	0
2	2000	2	4	50
3	1997	0	4	0
4	2000	0	4	0
5	2000	0	3	0
6	2000	0	4	0
7	2000	2	3	66.7

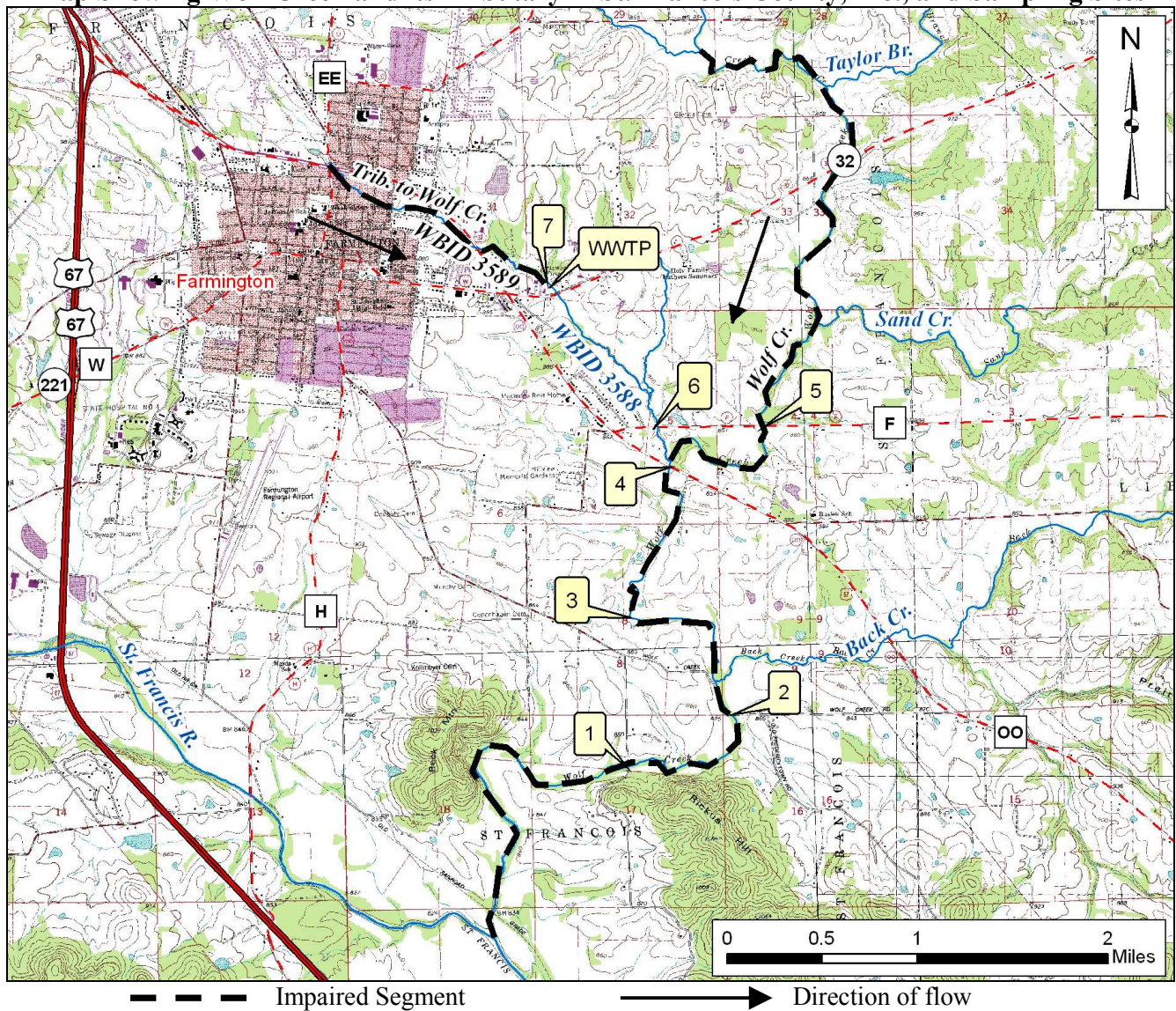
* Site refers to site numbers found on the map on the next page.

Sites 1 – 5 are on WBID 2879, Site 6 is on WBID 3588, and Site 7 is on WBID 3589



Sites 1 – 5 are on WBID 2879, Site 6 is on WBID 3588, and Site 7 is on WBID 3589

Map Showing Wolf Creek and its Tributary in St. Francois County, Mo., and Sampling Sites



Sample Sites

- | | |
|--|---|
| 1 – Wolf Cr at Opossum Hollow Rd | 5 – Wolf Cr at State Highway F |
| 2 – Wolf Cr at Old Fredericktown Rd | 6 – Tributary to Wolf Cr at State Hwy F |
| 3 – Wolf Cr 1 mile below of State Hwy OO | 7 – Tributary to Wolf Cr above WWTP |
| 4 – Wolf Cr at State Highway OO | |

For more information call or write:

Missouri Department of Natural Resources
 Water Protection Program
 P.O. Box 176, Jefferson City, MO 65102-0176
 1-800-361-4827 or 573-751-1300 office or 573-522-9920 fax
 Program Home Page: www.dnr.mo.gov/env/wpp/index.html